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الدراس

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سنة 9

Sheet 7

$$\text{I} \quad (a) \quad S \rightarrow S + a \mid b$$

$$S \rightarrow bL$$

$$L \rightarrow \varepsilon \mid +aL$$

$$(b) \quad S \rightarrow S + a \mid S + b \mid c$$

$$S \rightarrow cL$$

$$~~L \rightarrow \varepsilon \mid +aL \mid +bL~~ \quad \#$$

$$L \rightarrow \varepsilon \mid +M$$

$$M \rightarrow aL \mid bL$$

$$(c) \quad S \rightarrow abc \mid ac$$

$$S \rightarrow aL$$

$$L \rightarrow c \mid bc$$

$$(d) \quad S \rightarrow aa \mid ab \mid a$$

$$S \rightarrow aL$$

$$L \rightarrow \varepsilon \mid a \mid b$$

$$(e) \quad S \rightarrow asc \mid aSb \mid b$$


$$S \rightarrow b \mid aSL$$

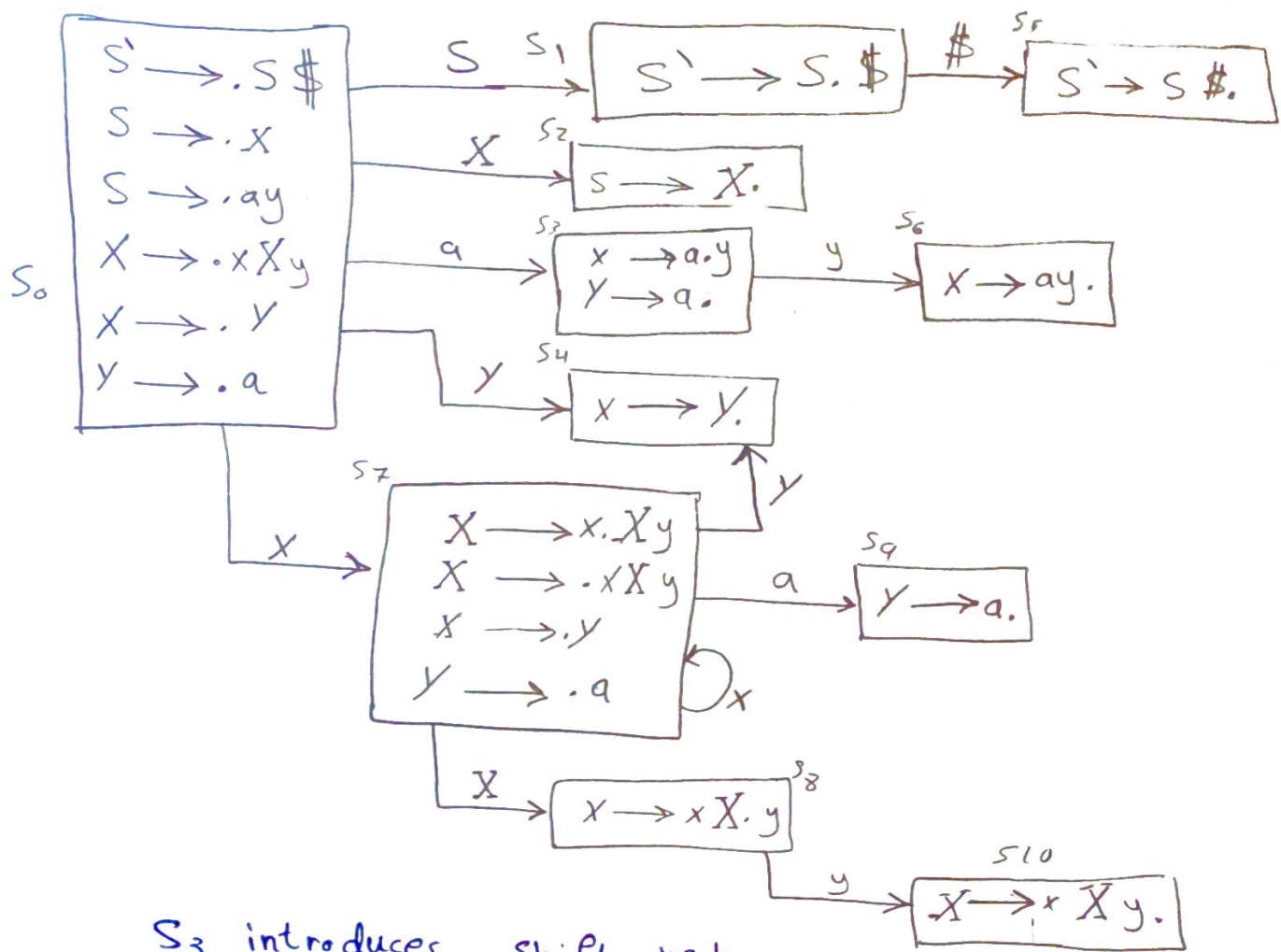
$$L \rightarrow c \mid b$$

$$\text{2} \quad S \rightarrow X \mid ay$$

$$X \rightarrow xXy \mid y$$

$$y \rightarrow a$$

 Turn over
for solution



S_3 introduces shift-reduce conflict

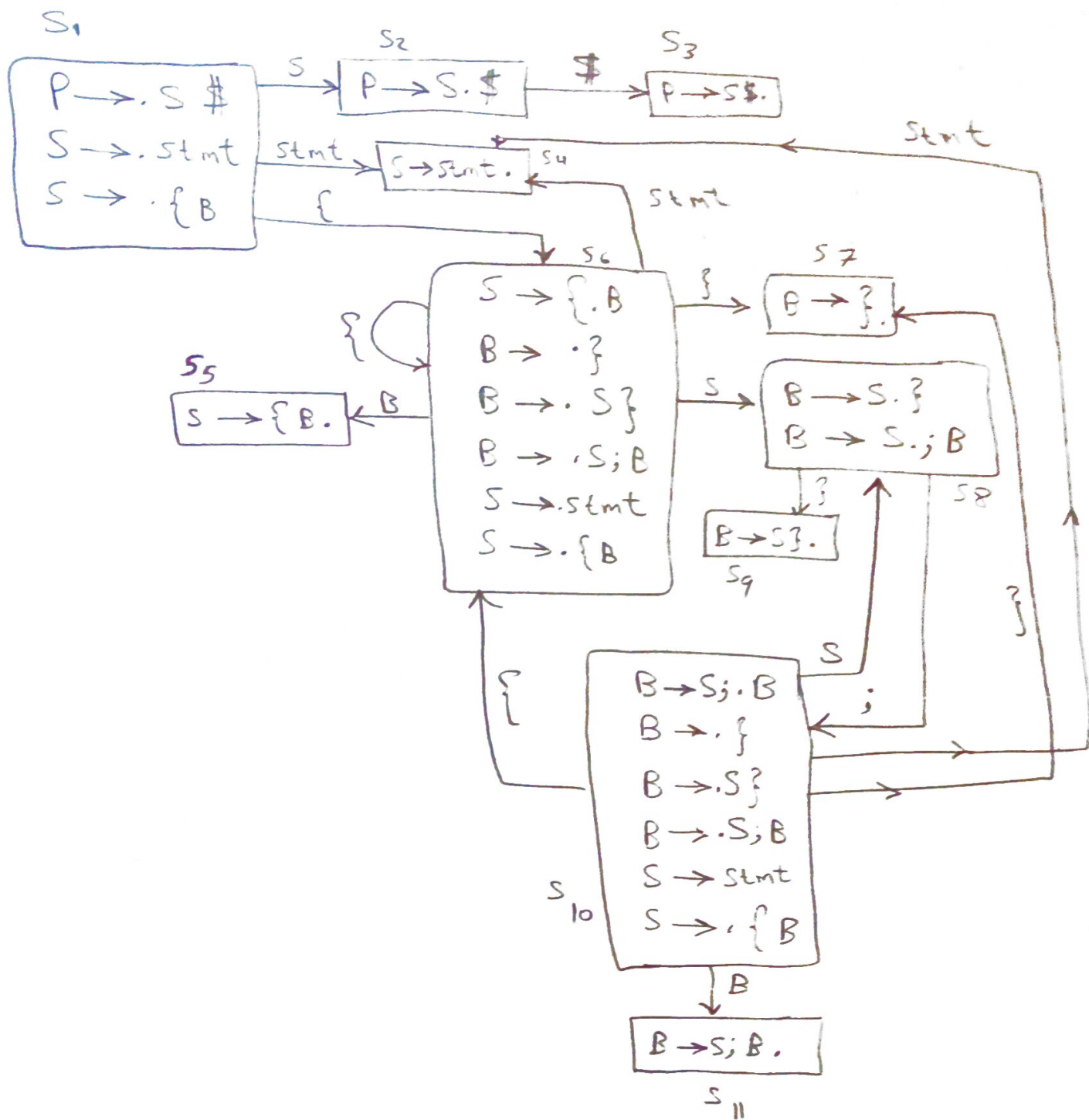
First(x) , First(X) , Follow(X)

\downarrow \downarrow \downarrow
 x x, a $\$, y$

3

$P \rightarrow S$
 $S \rightarrow \text{stmt} \mid \{ B$
 $B \rightarrow \} \mid S \} \mid S ; B$

\Rightarrow Turn Over for Solution



⇒ Turn Over

4 { stmt; }

Configuration	DFA Half state	Action
• { stmt; } \$	S_1	Shift
{ . stmt; } \$	S_6	Shift
{ stmt . ; } \$	S_4 ' ; ' $\in \text{Follow}(S)$	reduce $S \rightarrow \text{stmt}$
{ S . ; } \$	S_8	Shift
{ S ; . } \$	S_{10}	Shift
{ S ; } . \$	S_7 '\$' $\in \text{Follow}(B)$	reduce $B \rightarrow \}$
{ S ; B . } \$	S_{11} '\$' $\in \text{Follow}(B)$	reduce $B \rightarrow S ; B$
{ B . } \$	S_5 '\$' $\in \text{Follow}(S)$	reduce $S \rightarrow \{ B$
S . \$	S_2 '\$' $\in \text{Follow}(P)$	reduce $P \rightarrow S$
P . \$	Accepting	

ترقيم ال States مختلف عن الترقيم في الساتم